

HOME & GARDEN INFORMATION CENTER

Elm

The elm (*Ulmus* species) is probably best known as the American elm (*Ulmus americana*) because at one time it was used extensively along the streets of America. There are other species besides the American elm, and some are hardy in South Carolina except along the coast from Charleston south to Savannah, Georgia.



Mature American elms arching over street
Joseph O'Brien, USDA Forest Service. Image 1301077.
www.ipmimages.org. 11/11/04.

Mature Height/Spread

While most species reach 30 to 70 feet in height, and 30 to 60 feet in width, the American elm species will grow 80 to 130 feet high and 60 to 120 feet wide.

Growth Rate

Most elms grow rapidly and have a moderate to long life span.

Ornamental Features

Probably the most notable feature of most elms is the vase-shaped, upright form. Some are rounded and weeping.

They flower at different times, depending on the species. The flower is small and not showy, but those that bloom in early spring do so before leaves appear, adding interest to an already handsome silhouette. Leaves hide flowers that bloom in summer or fall. Fall leaf color of many species is showy yellow, while others may be yellow to reddish-purple.

The Chinese or lacebark elm (*U. parvifolia*) has attractive exfoliating bark that shows colors of gray, green, orange and brown. The bark of other species is not outstanding.



Chinese elm bark
Karen Russ, ©HGIC, Clemson Extension

Landscape Use

The American elm was once the favorite shade tree in the United States. It is large, tough and long-lived and, with its arching form, was favored as a street tree, as well as a lawn specimen.

In the last few decades, however, millions of elms of different species have been killed by Dutch elm disease, both in the United States and Europe. The

fungus that causes the disease is spread by certain species of the elm bark beetle. Although many elms have survived, the disease eventually kills those trees that are susceptible unless the beetle is controlled by sanitation, spraying and pruning.

Some American elms, and other elm species, that have survived and have not been infected are considered resistant. Clones of these resistant American elms and hybrids of resistant species are being developed, produced and used to replace the old trees that were lost. Even though the use of all elms has diminished because of Dutch elm disease, the elm may regain its favored status with the introduction of these new resistant selections.

Elms prefer full sun to part shade. Although they grow best when grown in moist, well-drained, fertile soil, they adapt to most soil conditions - wet or dry, alkaline or acidic.

Because they tolerate urban conditions, they are good selections for street trees. Their roots are shallow, however, and can cause concrete sidewalks to buckle. Root barriers should be installed when planting in tight areas.

Select trees with major branches spaced along one trunk. Good spacing may require pruning to develop strong structure. It may also be necessary to remove major limbs that are less than half the diameter of the trunk. Prune low, drooping branches, especially when trees are used in high-traffic areas.

Problems

The most serious problem encountered with elms is Dutch elm disease. Asian elms are resistant to this disease, but most European and North American elms are not. The beetles are attracted to weakened trees, so it is important to maintain the health of existing trees. Fungicide injection and insecticides are often used to protect historic or valuable older specimens.

Species & Cultivars

Although there are several *Ulmus* species, only those that have shown resistance to Dutch elm disease are listed here:

- 'New Harmony' and 'Valley Forge' (*U. americana*) - These clones of the old American elms were developed and released by the U.S. National Arboretum in Washington, D.C. They are native to the United States. Although these have been developed as resistant varieties, they have not been tried in this area.
- 'American Liberty' (*U. americana*) - This is a vigorous, fast-growing tree that grows 60 to 100 feet in height and width. It grows in an upright vase-shaped form.
- Chinese Elm (*U. parvifolia*) - This elm has its origin in China, Japan and Korea. It forms a graceful, upright, rounded canopy of long, arching branches. Some grow in typical vase-shaped form 40 to 50 feet high and 35 to 50 feet wide. This tree has beautiful exfoliating bark.

Chemical control of diseases and insects on large trees is usually not feasible since adequate coverage of the foliage with a pesticide cannot be achieved.

Prepared by Debbie Shaughnessy, HGIC Information Specialist, and Bob Polomski, Extension Consumer Horticulturist, Clemson University. (New 06/99. Revised 03/01. Images added 11/06.)

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